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CASE REPORT PEER REVIEWED | OPEN ACCESS

Unusual cause of urinary retention in an infant

Taimur Iftikhar Qureshi, Muhammad Arshad, Hina Rashid

ABSTRACT

Introduction: Gastrointestinal tract duplication cysts constitute a rare group of malformation. Patients with presacral mass present with a diagnostic challenge due to the less obvious presentation.

Case Report: We report a 7-month-old boy, who presented with constipation and acute intermittent urinary retention. On per-rectal examination, a palpable mass was felt posteriorly with a narrow base, raising a query of pre-sacral/pelvic mass. Ultrasound pelvis revealed a well-defined, rounded oval-shaped cystic mass noted in the center of the lower pelvis, posteriorly. Computed tomography (CT) scan abdomen confirmed a cystic pelvis mass anterior to the rectum causing mass effect. Magnetic resonance imaging (MRI) of the pelvis was done to define its relationship to the sacral spine. A high-intensity lesion was seen on T2 imaging with no spinal involvement. Hence surgical exploration was done, and per operative diagnosis of rectal duplication was confirmed. Postoperatively child was discharged on the fourth post-operative day and doing well on follow-up.

Conclusion: We emphasize a complete examination, including per rectal examination in any child presenting with acute urinary retention to exclude pre-sacral masses.

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INTRODUCTION

Gastrointestinal tract duplication cysts constitute a rare group of malformations found along the alimentary tract ranging from the tongue to the anus. The reported incidence is 1:4500 births [1]. It has been claimed that the abdominal cavity accounts for about 75% of duplications, with the remaining 20% occurring intrathoracic or thoracoabdominal (5%). The most frequent kind of lesion is ileal (53%), which is followed by mediastinal (18%), colonic (13%), gastric (7%), duodenal (6%), and rectal (4%) duplication [2, 3]. Patients with presacral mass present with a diagnostic challenge due to the less obvious presentation. When symptoms do arise, they are typically brought on by the tumor's bulk influence on the surrounding pelvic structures. These symptoms include lower leg paralysis, constipation, urinary retention, and venous or lymphatic obstruction of the legs [4]. The occurrence of a rectal duplication cyst causing retention of urine is uncommon and requires a high index of suspicion to detect. Mostly asymptomatic, patients with duplicate rectal cysts can present with a rectal mass, hence making a thorough per-rectal examination mandatory in these patients [5].

We herein present a case of patient with rectal duplication cysts who presented with acute urinary retention to highlight the challenges in the diagnosis of the concealed mass causing obstructive effects on the urinary tract that can lead to irreversible kidney damage. These effects are largely preventable with prompt detection and management which is curative once safely resected.

CASE REPORT

A 7-month-old boy came with a history of constipation for three months and on-and-off urinary retention for two weeks. He was catheterized twice secondary to acute urinary retention. Birth history was unremarkable, and so was developmental history.

Clinical examination of the abdomen did not reveal any palpable abdominal mass or swelling, there were no ascites clinically neither was there any scrotal abnormality however a per-rectal examination revealed, a palpable mass posteriorly with a narrow base, raising a query of pre-sacral/pelvic lesion.

His basic hematological investigations were within the normal limits. Tumor markers, lactate dehydrogenase, alpha-fetoprotein, and beta HCG levels were also negative. Ultrasound pelvis revealed a well-defined rounded oval-shaped cyst noted in the center of the lower pelvis measuring approximately 4.3 × 3.0 cm. Computed tomography scan abdomen showed a well-circumcised walled cystic lesion located in the pelvis anterior to the rectum causing a compressive effect over the urinary bladder, urethra, and rectum (Figure 1). Its relation with the spine could not be identified; hence, MRI of the pelvis was advised which revealed a high-intensity lesion in the pelvis on T2 imaging with no spinal involvement, there was no spinal deformity (Figure 2).

With this pre-operative planning surgical exploration was planned, on examination under general anesthesia, there was a palpable mass just above the imaginary line drawn between the two anterosuperior iliac spine. A Pfannenstiel incision was given, the bladder retracted, bilateral ureters were identified, and a cyst mass was revealed along the rectum tightly adherent to the base, where the mass shared a common wall with the rectum (Figure 3).

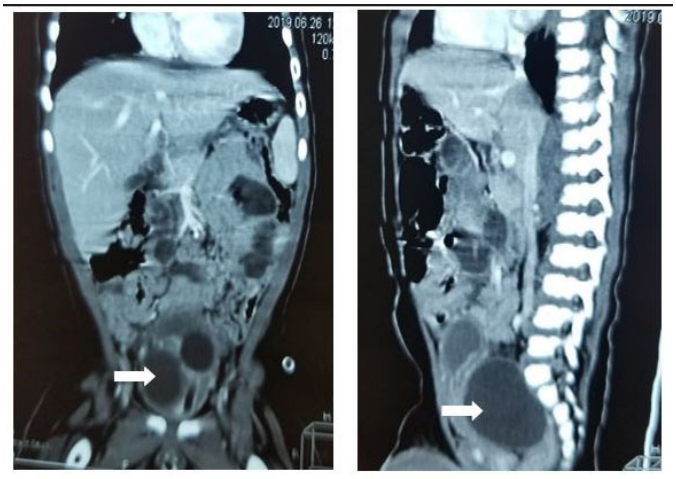

Figure 1: Coronal and sagittal sections of CT-scan abdomen showing cystic mass in the pelvis in pre-sacral region abducting bladder anterosuperiorly and sacrum posteriorly (arrow).

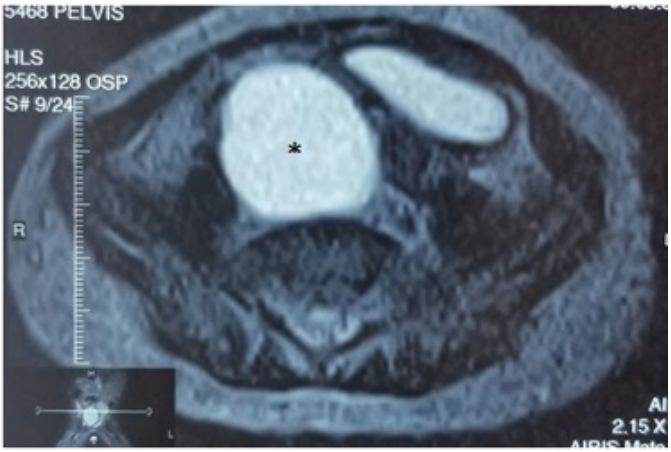

Figure 2: MRI pelvis showing high intensity lesion in the pelvis (asterisk).

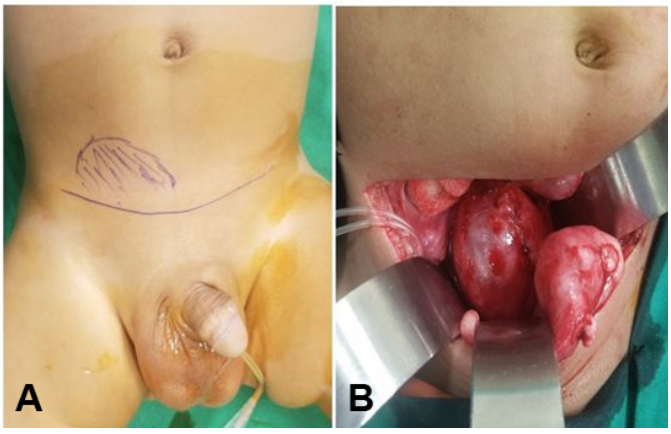

Figure 3: (A) On examination under anesthesia (EUA), a palpable mass. (B) A cystic mass arising from the rectum.

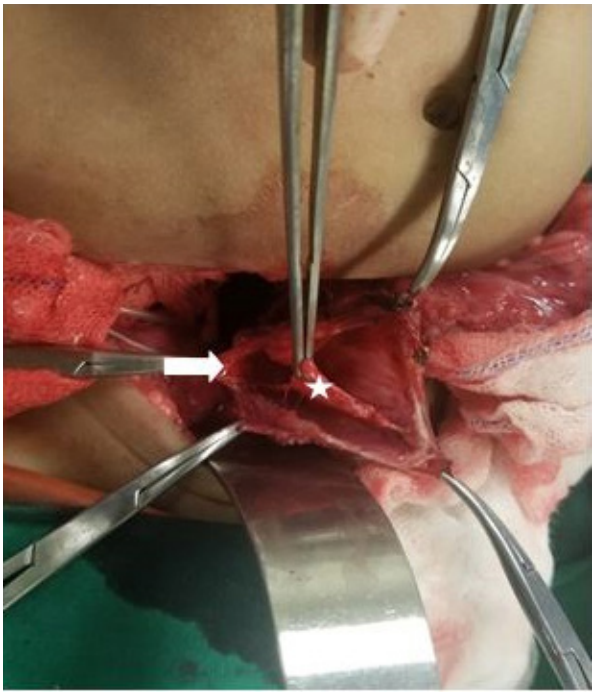

Figure 4: Cyst wall opened (arrow) and mucosal stripping done (star).

Surgical safe resection was not possible; hence, cyst was aspirated with drainage of mucoid clear fluid, cystostomy was performed, there was no luminal connection with the rectum, and excision of the cyst component was done with complete mucosal stripping. The cystic remnant was secured with an absorbable suture (Figure 4).

Histopathology revealed a cyst containing a fibromuscular wall with gastric-type mucosa.

DISCUSSION

Based on their origins and histological characteristics, lesions known as retrorectal developing cysts can be divided into several categories. The most prevalent types include rectal duplication cysts, rectal cystic hamartoma, rectal teratoma, dermoid cysts, and epidermoid cysts [6]. There are two more widely recognized concepts for their embryogenesis: (a) the Veeneklass hypothesis, which explains the gastric epithelium by supporting a malseparation of the notochord, and (b) the less well-accepted Lewis–Thyng theory, which supports the presence of diverticula on the 8–9 week fetus [5, 7]. The least frequent type of rectal cysts is duplicates [1, 8]. Rectal cysts can often be identified from the others primarily by their distinct histological characteristics. More specifically, rectal duplication cysts consist of a smooth-muscle-surrounded squamous portion coated in a transitional epithelium that secretes mucus. Regarding their diagnosis, they can be diagnosed mostly with CT or MRI scans; however, diagnosis can be a challenge due to the less obvious presentation [3, 8]. Treatment involves surgically safe cyst resection, with mucosal stripping. In case of nonresectibility providing internal drainage is a plausible option. Rectal duplication cyst is a rare entity, a differential to consider in children with reported pre-sacral mass. Common presentation is in the form of mass effect. Clinical examination and pre-operative screening are important to rule out more common differential diagnoses of a pre-sacral mass.

CONCLUSION

It is important to conduct a thorough examination, including per rectal examination, in every child who presents with acute urinary retention. This examination is essential to rule out the presence of pre-sacral masses.

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Author Contributions

Taimur Iftikhar Qureshi – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Muhammad Arshad – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Hina Rashid – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Guarantor of Submission

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Conflict of Interest
Authors declare no conflict of interest.

Data Availability
All relevant data are within the paper and its Supporting Information files.

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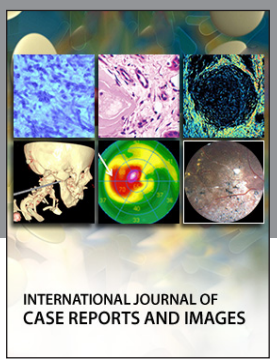

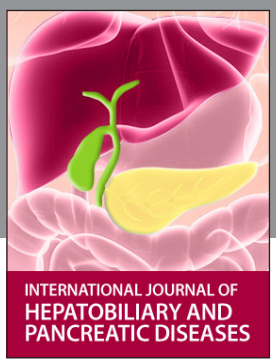

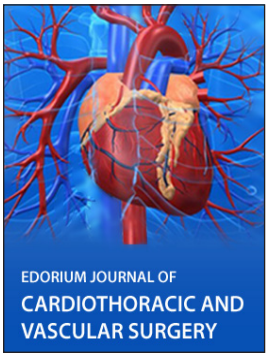

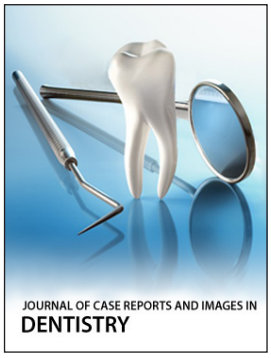

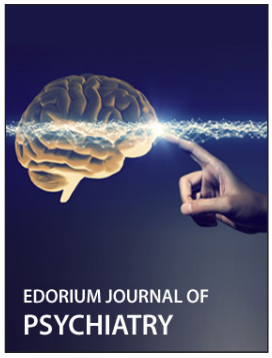

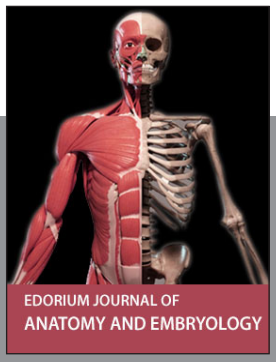

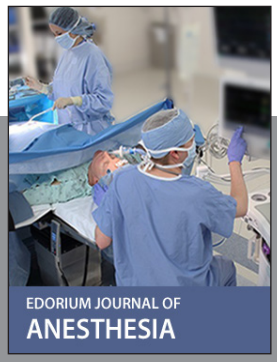

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